

REMARKS

Claims 1-15 are currently pending in the subject application and are presently under consideration. Claims 1 and 5-15 have been amended herein. A listing of the claims can be found at pp. 2-5 above.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 1-15 Under 35 U.S.C. §103(a)

Claims 1-15 stand rejected under 35 U.S.C. §103(a) over Traversat, *et al.* (US 2002/0184310) in view of O'Mahony (US 2005/0025144). This rejection should be withdrawn for at least the following reasons. Traversat, *et al.* and O'Mahony, alone or in combination, fail teach or suggest each and every feature as recited in the subject claims.

The claimed subject matter relates to matching communicable nodes in a dynamic, decentralized computing environment. More specifically, the subject application provides a set of rules or standards designed to enable nodes to connect with one another and to exchange information while reducing the deadlocks in the dynamic, decentralized computing environment. Accordingly, each node has the potential on its own to discover other nodes that it can match, hence facilitating the decentralized computing architecture (*e.g.*, the Internet). To this end, independent claim 1, as amended, recites in part, "each node is capable of querying the availability of neighboring nodes for a match, wherein the match is formed when a first node queries the availability of a second node and the second node queries the availability of the first node, *wherein if the match is formed, a taken state of both nodes is set to true and the contents of each node's neighbors array or alternative data structure is cleared, wherein the contents of each neighbors array and each alternative data structure comprise information relating to the corresponding node's set of neighbors.*" Traversat, *et al.* and O'Mahony, alone or in combination, fail to teach or suggest each and every feature as recited in independent claim 1.

Traversat, *et al.* relates to forming, discovering and joining peer groups in a peer-to-peer networking environment without the need of centralized resources. *See, e.g.*, [0028]. Instead, messages are exchanged according to a defined protocol for adding a new peer to a peer group (*e.g.*, a "peer resolver"). *See* [0358]. The pre-defined protocol virtually eliminates overhead messages. *See* [0270]. Additionally, the pre-defined protocol provides a generic method for

peers to send queries or receive responses. *See* [0359]. However, Traversat, *et al.* is silent with regard to *a taken state* that is *set to true* if a match is made. Additionally, Traversat, *et al.* is also silent with regard to clearing *the contents of each node's neighbors array or alternative data structure* that contains *information relating to the corresponding node's set of neighbors*.

O'Mahony, which relates to discovery techniques for physical media interface aggregation, fails to make up for the aforementioned deficiencies of Traversat, *et al.* This aggregation increases the speed of communication. To this end, O'Mahony describes a Discovery Operations field, which can tell a central office node to conditionally execute a "clear if same" function on remote discovery register. *See* [0042]. The information cleared from the remote discovery register relates to the availability of the node itself. *See, e.g.*, [0051]. However, the remote discovery register does not contain *information relating to the corresponding node's set of neighbors*. Furthermore, O'Mahony is silent with regard to *a taken state* that is *set to true* if a match is made. Therefore, O'Mahony clearly fails to make up for the aforementioned deficiencies of Traversat, *et al.*

Accordingly, for at least the reasons as described above, Traversat, *et al.* and O'Mahony, alone or in combination, clearly fail to teach or suggest each and every feature as recited in independent claim 1. Additionally, at least by virtue of dependence, Traversat, *et al.* and O'Mahony, alone or in combination, fail to teach or suggest each and every feature as recited in associated dependent claims 2-5. Therefore, it is respectfully requested that this rejection be withdrawn and claims 1-5 allowed.

Similarly, independent claim 6, as amended, recites in part, "identifying two nodes that are capable of communicating with each other; inviting a first node of the two nodes to communicate with a second node of the two nodes to find a match, wherein the invitation includes an edge containing an address of the first node and an address of the second node; inviting the second node to communicate with the first node to find the match, wherein the invitation includes the edge containing the address of the first node and the address of the second node; and forming a match between the first node and the second node, comprising: sending another availability message from the first node to the second node, replying with an availability message or a yes message, setting a taken state of the second node to true and *clearing the contents of the second node's neighbors array or alternative data structure of information*

relating to the node's set of neighbors.” For at least the reasons as described above with respect to independent claim 1, Traversat, *et al.* and O’Mahony, alone or in combination, fail to teach or suggest each and every feature as recited in independent claim 6 (as well as associated dependent claims 7-10). Accordingly, it is respectfully requested that this rejection be withdrawn and claims 6-10 allowed.

Likewise, amended independent claim 11 recites in part, “discovering two nodes, wherein each node has an address and addresses from the two nodes form an edge; inviting the two nodes to communicate to find a match, comprising: inviting the first node to communicate with the second node, wherein the invitation includes information about the edge; and inviting the second node to communicate with the first node, wherein the invitation includes information about the edge; communicating to discover a matching availability of the two nodes, wherein each node sends availability messages; and forming a match, comprising sending another availability message from a first node to a second node, sending an availability message ~~and~~ or a yes message from the second node to the first node, setting a taken state of the second node to true and *removing all information related to other neighboring nodes from the second node's neighbors array or alternative data structure.*” At least for the reasons as described above with respect to independent claims 1 and 6, it is clear that Traversat, *et al.* and O’Mahony, alone or in combination, fail to teach or suggest each and every feature as recited in independent claim 11, as well as associated dependent claims 12-15. Therefore, it is respectfully requested that this rejection be withdrawn with regard to claims 11-15 and the subject claims allowed.

For at least the foregoing reasons, it is clear that Traversat, *et al.* and O’Mahony, alone or in combination, fail to teach or suggest each and every feature as recited in the subject claims. Accordingly, it is respectfully requested that this rejection be withdrawn and the subject claims allowed.

CONCLUSION

The subject application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP2198US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,
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